

Patent claims

1. A method for electrodynamically braking a rail vehicle which is equipped with a drive (6), wherein the acceleration ( $a_{act}$ ) of the rail vehicle is regulated as a function of its velocity ( $v$ ), characterized in that the acceleration ( $a_{act}$ ) is regulated to a set point acceleration ( $a_{step}$ ) which is proportional to the velocity ( $v$ ).
2. The method as claimed in claim 1, characterized in that the set point acceleration ( $a_{step}$ ) for individual sections is proportional to the velocity ( $v$ ).
3. The method as claimed in one of claims 1 or 2, characterized in that in order to control the acceleration ( $a_{act}$ ) indirectly, the torque ( $M_R$ ) of the drive (6) is regulated.
4. The method as claimed in claim 3, characterized in that a PI controller is used to control the torque ( $M_R$ ).
5. The method as claimed in one of claims 3 or 4, characterized in that when the torque ( $M_R$ ) is controlled it is kept within predefined limits.
6. The method as claimed in one of claims 3 to 5, characterized in that an additional torque ( $M_V$ ) which is proportional to the set point acceleration ( $a_{step}$ ) is added to the torque ( $M_R$ ), and in that the proportionality constant is dependent on vehicle values.
7. The method as claimed in claim 6,

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characterized in that the vehicle values are the vehicle mass, the transmission ratio and/or the diameter of the wheels.

- 5 8. The method as claimed in one of claims 1 to 7, characterized in that the velocity ( $v$ ) of the rail vehicle is determined from rotational speeds ( $n$ ) of the drive (6) and/or of an axle.
- 10 9. The method as claimed in one of claims 1 to 8, characterized in that the acceleration ( $a_{act}$ ) is determined as a first derivative of the velocity ( $v$ ).

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